Assessing Privatization on Operational Efficiency of Enugu Electricity Distribution Company (EEDC)

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Abstract: The study Assessing Privatization on Operational Efficiency of Enugu Electricity Distribution Company, Enugu, seeks to assess the impact of privatization on operational efficiency in Enugu Electricity Distribution Company (EEDC), Enugu. Descriptive Research design was used intended to establishing the relationships between the dependent and independent variables and in turn analyzing it using SPSS; the major instrument used for data collection was questionnaire, which was structured using five-point Likert scale. Simple percentages, cumulative percentages, Pearson’s correlation and Analysis of Variance (ANOVA) were employed to analyze the data obtained from the respondents. The findings reveal that there is no technological improvement in the company, yet. Also, that Enugu Electricity Distribution Company has made slight improvement in terms of service delivery and rectification of electricity faults. However, this improvement in the Sector is marred by hike in electricity user tariffs, poor channel of electricity distribution, etc. Based on the findings above, the study recommends among other things that EEDC should embark on technological efficiency through investment in basic power technologies like higher capacity transformers, etc. Also, that available relevant mechanism should be put in place for prompt customers’ attention and faults rectification aimed at improved customers’ service. There is need for government to reduce the sufferings of the masses through creation of employment and reduction in electricity user tariff for the affordability of the citizens considering the importance of electricity to economic building. The study then concludes that though the privatization of Enugu Electricity Distribution Company (EEDC) has brought slight improvement in service delivery, it cannot be said to have achieved desired economic development for the Nigerian citizens in the South East due to lack of technological efficiency and the hike in electricity price making it unaffordable to many Nigerian families.

Keywords: Operational efficiency, Electricity Distribution Company, Enugu, privatization

1. Introduction

1.1. Background of the Study

In the post-colonial era, Nigeria has at one time or the other taken up policies which have political as well as economic implications. These policies include The Indigenization and Nationalization Policy, Operation feed the Nation (OFN), Austerity Measure, Structural Adjustment Programme (SAP), Deregulation of Oil Sector, Resource Control, Privatization and...
Commercialization of Public Enterprises, etc.; this paper discusses the privatization of one of the public enterprises in Nigeria – the Power Holding Company of Nigeria (PHCN).

Privatization in Nigeria started in 1986 as an integral part of structural adjustment programme (SAP). Prior to this period, the Nigerian state has participated actively in enterprises right; this trend continued until 1988 when privatization programme was officially launched. It was envisaged that privatization would improve operational efficiency of inefficient state owned enterprises (SOEs), reduce government expenditure and state role, increase investment and employment as well as ensure job security in Nigeria. Surprisingly, since the official introduction of privatization in 1988, the policy has been a subject of intensive debate and has remained highly controversial in Nigeria. The operational inefficiency of some of the privatized companies like National Electric Power Authority (NEPA) now Power Holding Company of Nigeria (PHCN) among other is even more worrisome. The supply and distribution of electricity to consumers is still grossly inadequate. This scenario and others has provoked more debates, some in favour of and others against privatization. Those in favour of Privatization argued that privatization brings operational efficiency, increases productivity, creates employment, ensures job security and widen the distribution of wealth in society.

In 1990, when the Nigerian nation returned to democratic rule, the government embarked on various infrastructural rehabilitation and expansion programmes. Within these programmes was the move that involves the reforms of the power sector. The reforms in this sector was necessitated by noticeable myriads of challenges which led to operational inefficiency, limited access to infrastructure, inadequate generation and usage of capacity, inefficient regulation, high technical losses and vandalism, insufficient transmission and distribution facilities, high rate of corruption among workers, etc. In order to address this alarming situation, the government embarked on reforming power sector in two phases: Phase 1: the Infrastructural and rehabilitation phase which took place from 1999 to 2004 (Lawal 2008). A major part of the infrastructural development programme of 2004 was the National Integrated Power Project (NIPP); this was initiated to boost electricity generation through the opening of gas power stations across the country (Okolobah & Ismail 2013) by decentralizing and granting licenses to different independent power producers (IPPs) to generate and sell electricity privately to power generating stations and general public (Lawal 2008).

Phase II: The Federal Government Act – Electric Power Sector Reform Act (2005) that brought the power sector reform into limelight outlined the framework of the reform as follows; to unbundle the state-owned power entity into generation, transmission and distribution companies; to provide for the transfer of assets, liabilities and staff of NEPA to PHCN; to migrate PHCN staff to successor generation, transmission and distribution companies; to create a competitive market for electricity services in Nigeria; and to set up an independent regulator. The reform kick started with the unbundling of the state-owned NEPA into eleven (11) distribution companies, six (6) generation companies, a single transmission company and the incorporation of an initial holding company (Power Holding Company of Nigeria Plc). The reform proposed a single subsidiary for the control of the transmission sector leaving the generating companies and sale the eleven distribution companies to independent power producers. The distribution companies (DISCOs) will control the supply of electricity within a designated geographical area. The implementation of the 2005 Act has been frustrated due to the following identifiable shortcomings; thus, the maintenance of an inappropriate pricing regime; the failure to establish a bulk purchaser in line with the provisions of the Electric Power Sector
Reform Act; the failure to address investor’s concerns about the creditworthiness and financial viability of the distribution companies after investing in them; the operational and financial risks to potential acquirers of successor companies posed by the failure to reach an agreement with the labour unions on the settlement of outstanding arrears (of salaries, pensions and other benefits and to severance pay); the uncertainties generated by the delay in operationalizing the Nigerian Electricity Liability Management Company (NELMCO); the delay in contracting out the management of the Transmission Company of Nigeria (TCN); concern about the licensing regime for power generation and power distribution companies; and the lack of continuity and consistency in pursuing the enactment and commencement of the EPSRA, notwithstanding all these, the Act was passed and timelines established.

At the completion of the first phase of the power sector privatization process, on November 1, 2013, the Federal Government handed over to the private investors the eleven (11) distribution companies (discos) and five generation companies (Gencos) who won the biddings. Despite the privatization of PHCN in 2013, Nigeria’s electricity generation capacity has declined from the peak generation level of 4.5Mega Watts (MW) recorded in December 2012 to about 3.6Mega Watts (MW) in January 2014 (www.nigeriapowerreform.org).

The provision of regular, affordable and efficient electricity is crucial for economic growth, national security as well as the rapid industrialization of the Nigerian nation. It is a true saying that any nation that desires to develop and grow its economy must first develop its power sector. Energy is an important input to production. Therefore, without electricity, mass production of goods becomes virtually impossible. Erratic electricity supply disrupts production, voltage fluctuations negatively affect the durability of machines, thereby making it extremely difficult to produce to global economy. Nigeria is described as a generator economy due to power situation. It is a known fact that when an organization is meeting its production target, its workforce enjoys the benefit which comes in form of financial rewards, incentives, etc. Privatization in the context of developing countries has different implications for the poor than the developed nations. This is because, in the developed nations, employees are prepared and trained for redundancy, whereas, in Africa, especially Nigeria, after privatization, employees are left at the mercy of the new owners. It is against this background that the paper examines the reasons for the privatization of the Power holding Company of Nigeria and the impact of the privatization on the employees of Enugu Electricity Distribution Company (EEDC).

1.2. Objectives of the Study

The broad objective of this study is to examine the impact of privatization on organizational efficiency of Power Holding Company of Nigeria and Enugu Electricity Distribution Company. The specific objectives of the study are to;

1. determine the relationship between competition among Distribution Companies in Nigeria and improved technology in EEDC.
2. ascertain the extent to which increased electricity output has led to affordability of power supply to customers of EEDC.
3. assess the relationship between management efficiency and service reliability in EEDC.

1.3. Research Questions

The following research questions guided this work.
1. What is the nature of the relationship between competition among Distribution Companies in Nigeria and improved technology?
2. To what extent has increased electricity generation output led to affordability of power supply to customers of EEDC?
3. What is the nature of the relationship between management efficiency and service reliability in EEDC?

1.4. Hypotheses
Based on the research questions formulated above, the following hypotheses guided the study:

i. There is a significantly positive relationship between competition and improved technology.

ii. Increased electricity generation in Nigeria has significant positive effect on affordability of power supply to customers of EEDC.

iii. To a large extent, there is a positive relationship between management efficiency and service reliability to customers of EEDC.

2. Review of Related Literature
2.1. Conceptual Review
2.1.1. Privatization
Privatization is the transfer of state-owned enterprises including ownership and control or management to the private sector. It refers to a measure adopted by government to bring in private owners to the control of public enterprises accordingly reduce government expenditure in state owned enterprises (Igbuzor 2003). It includes the activities which range from selling of state owned enterprises to contracting out of public services to private contractors (Cowan 1987). Iheme (1997) defines privatization as any of a variety of measures adopted by government to expose a public enterprise to competition or to bring in private ownership or control into a public enterprise and so reduce the usual weight of public ownership or management.

Privatization refers to the process of selling state-owned enterprises to private individuals. It means any shift in activities or functions from the state to the private sector. It involves the shift of the production of goods and services from public to private. It is understood as the act of reducing the role of government or increasing the role of the private sector in a business activity or ownership of assets (Olowu and Orji, 2013). This means that privatization would be ascribed a meaning similar to those of deregulation and liberalization, which occurs by means of reducing the regulatory environment. According to Agba, Ushie, and Festus, (2010), it involves the transfer of government owned shares in designated state owned enterprises to private shareholders. Privatization is generally used as the subsequent sale of at least fifty-one (51%) percent of the total shares of the public owned enterprises to the private shareholders (Burns and Coram 2001). However, this view is seen as being “too narrow”. It makes more sense to see privatization as the reduction of government involvement in general; not only as a reduction in production, but also a reduction in provision, subsidies or regulation or indeed any combination of the four instruments (Orji, 2010).

According to Mahmoud (2004), Structural Adjustment Program that introduced
privatization policy in Nigeria is a neo-liberal development strategy of the international financial institutions which was aimed at incorporating national economies into global market. One of its major objectives was to pursue deregulation and privatization leading to removal of subsidies, reduction in wage bills and the retrenchment of the public sector ostensible to trim the state to size.

Orji (2010) classifies the reasons for government to pursue quickly the privatization and commercialization programme based on the following;

(a) Economic benefits: The economic argument for privatization includes reducing taxes by using the proceeds from sales, exposing activities to market forces and competition and reducing both government spending and the government’s share of the economic activities. Stimulating competition is an attractive part of privatization programme. This is because competition provides powerful incentives to both product and price efficiency. When public enterprises face competition, they are bent to operate in accordance with consumer demand; otherwise, they face loss of patronage. Competition could be introduced by selling or deregulating to allow the entry of competitors. According to Kay & Thompson (1986), selling assets only improves competition if the enterprise is already in a competitive environment; otherwise, a public monopoly to private ones does not improve competition and can have additional effect of making future competitive changes difficult to bring about.

(b) Managerial efficiency: The argument for management efficiency of privatization claims that private management is inherently superior to public management. Milward and Parker (1983) in Olowu et al 2013 said that management of private and public sector organizations do operate in quite different environments and have different objectives. This shows that there are differences in structure between the public and private sector organizations. Public sector organization in Nigeria is characterized by the culture of “no-owner Company”, shaped by frequently rotated leadership, conflicting objectives, lack of individual accountability and emphasis on production, instead of having a customer orientation.

(c) Ideological issues: According to Orji 2010, all ideological issues over privatization seem to have been won in favour of privatization judging by the policy outcome. More seriously, no counter debate has been made. Cook and Uchida (2001) argue that the degree of product market competition and the effectiveness of regulatory policy have rather larger effects on performance than ownership per se. Although the benefits may not be large, there would seem to be little advantage in privatizing loss-making areas such as the PHCN.

(d) Accountability issue: In developing countries like Nigeria, organizations under the control of government are questionable in terms of their accountability. Government at all levels is accountable to political leaders and finally to the people (Orji 2010). Public enterprises are organizations designed to be part of government sector and also to operate commercially. Notwithstanding their commercial operations, they have no shareholders, they are government owned. They have their own management and board of directors and are also responsible to a minister. (Orji 2010), public enterprise inefficiency is not necessarily the result of ownership. Apart from maximizing profits like the private sector, the public enterprise is often required to meet other objectives.
2.2. Operational Efficiency in the Power Sector

In a business context, operational efficiency can be defined as the ratio between the input to run a business operation and the output gained from the business. When improving operational efficiency, the output to input ratio improves.

Inputs would typically be money (cost), people (measured either as headcount or as the number of full-time equivalents) or time/effort. Outputs would typically be money (revenue, margin, cash), new customers, customer loyalty, market differentiation, production, innovation, quality, speed & agility, complexity or opportunities.

The terms "operational efficiency", "efficiency" and "productivity" are often used interchangeably. An explanation to the difference between efficiency and (total factor) productivity is found in "An Introduction to Efficiency and Productivity Analysis". To complicate, "operational excellence" which is about continuous improvement - not limited to efficiency - is occasionally used when meaning operational efficiency. From time to time "operational excellence" is also used with the same meaning as "operational efficiency".

In order to improve operational efficiency one has to start by measuring it. Since operational efficiency is about the output to input ratio, it should be measured both on the input and the output side. Quite often, company management is measuring primarily on the input side, e.g. the unit production cost or the man hours required to produce one unit. Even though important, input indicators like the unit production cost should not be seen as sole indicators of operational efficiency. When measuring operational efficiency, a company should define measure and track a number of performance indicators on both the input and output side. The exact definition of these performance indicators will vary from industry to industry, but typically these categories are covered:

The main economic justification for privatization is that it promotes the economic efficiency of privatized state-owned enterprises. Four alternative theories explain the superiority of private ownership over public ownership, and the economic efficiency gains that are likely to emerge from the transfer of ownership and control of assets from the public to private investors. First, the property rights theory explains differences in the performance of public and private enterprises in terms of marked differences in attenuation of property rights (Demsetz, 1966, 1967; Furubton and Pejovich, 1972; De Alessi, 1980; Davies, 1981). Property rights in public enterprises are attenuated partly because property rights cannot be easily transferable. The problem of transferability implies that the cost and rewards of economic activities do not accrue more directly to individuals responsible for the property rights. The link between the average public owner (the taxpayer) and the manager of the public firm is extremely long, weak and tenuous; making monitoring of public managers’ behaviour difficult. The general conclusion from the property rights theory is that the more attenuated property rights are, the less productively efficient will be the enterprise because attenuation weakens the rewards-penalties systems that are necessary for cost minimizing behaviour.

Secondly, extending the property rights approach, the principal-agent theory focuses on differences in the monitoring mechanisms and incentives which public and private managers face as agents of shareholders given welfare maximization for the former and profit maximization for the latter (Vickers and Yarrow, 1988; Bös and Peters, 1991; Bös, 1991). The change in ownership from the public to the private sector has at least two effects: a change in the objective from a weighted welfare function to profit maximisation and a change in the incentive structure by linking reward to the level of performance under the private ownership. This shift towards
profit maximisation may imply higher price, thus foregoing allocative efficiency, but there may be an increase in operational or productive efficiency.

Thirdly, the public choice theory takes the bureaucratic approach in which public enterprises are seen as an instrument of enhancing the utility functions of politicians such as maximization of votes and the budgets (Niskanen, 1972; Buchanan, 1972; Blankart, 1983; Boycko et al., 1996). Proponents of the public choice theory hold that government departments pursue objectives that do not maximize profits and usually pursue goals such as maximizing budget, risk aversion, employment and investment. Boycko et al. (1996) propose a model of privatization within the framework of public choice theory. The model shows that privatization will lead to effective restructuring of state-owned enterprises that are currently producing at inefficiently high levels to maximize employment, only if both cash flow rights and control rights pass from the government into private hands (particularly managers’ hands). This will make it difficult for the government to bribe managers to produce at inefficient levels by offering them operating subsidies. Therefore, cutting the ‘soft budget constraint’ is vital to improving performance.

Finally, organizational theories emphasize the role of organizational characteristics in determining the performance of firms (Hartley and Parker, 1991; Dunsire, 1991; Bishop and Thompson, 1994; Martin and Parker, 1997). Proponents of organizational theories argue that differences in the performance of public and private firms are influenced by differences in management, goals, labour, communication and reporting systems, organisational structure, and the nature and location of business. In all the four theories of privatization, there is a consensus that ownership matters and does affect the internal efficiency of firms (cost minimizing behaviour) and the allocative efficiency in the market place.

2.3. Theoretical Framework

This work is based on the neoliberal school of thought led by Adam Smith and John Locke. They believe in the doctrine of competition, operation of market forces and collapse of all artificial barriers and dismantling of official regulations to a global economy which will produce growth in trade, efficiency and expectedly reduce unemployment (Ugbam, 2013). This theory is based on competition and profit motive funded on free market pricing and freedom from the interfering hands of state regulation. According to Odey (2012), Privatization in this theory could reap the advantage of the market system and competition namely, effectiveness, productivity, and efficient service. It would strengthen the market forces with some degree of deregulation, economic liberalization, relaxation of wage and price control.

Dimgba (2011), stresses that Privatization is a phenomenon which has a necessary concomitant to the principle of liberalization, which involves the transfer of control in terms of ownership and management from the government to private investors. However, the relevance of this theory has not been free from challenge in the sub-Saharan Africa, and in Nigeria, in particular. Aluko expressed in Odey (2012) that the assumption of the inherent efficiency of the private sector should be questioned. According to him, in Nigeria, most of the private sector profits are not always the result of efficient operations and increased productivity, rather, money made through inflated frivolous contracts, patronage and corruption, and argues that most rich people in Nigeria’s private sector make their money through their public sector connections and influence.

Therefore, in the light of this assumption of government patronage and corruption, we feel that governance in Nigeria should be made less monetarily attractive by removing
interference in the business enterprises and commanding height of the economy, in line with the neoliberal school of thought (Olowu and Orji, 2013). This will help in determining job security, employee welfare and wage price. This is because; job security in private sector is determined by the acquisition of relevant skills and performance.

3. Methodology
   Descriptive survey design was used in this study aimed at collecting detailed and factual information that describes an existing phenomenon (Ezeani 1998). The element of the population includes all employees of Enugu Electricity Distribution Company (EEDC) who transferred from the Power Holding Company of Nigeria Plc. Two-stage sampling technique was employed in the selection of the respondents. For the first stage, employees that transferred from PHCN to EEDC were selected. At the second stage, there was a random selection of respondents from among those selected from the first stage. A structured questionnaire based on the objectives of the study, was administered to the selected sample population.

   Data for the study were collected from both primary and secondary sources. Primary data were collected by means of interviews and structured questionnaires using summed rating scale of 1 – 5, which were administered to the chosen sample. The information from secondary sources was obtained from the library, published journals and articles, textbooks, internet, and other documented materials and were mostly utilized in the literature review. Both descriptive and analytical approaches were utilized in the treatment of data. Descriptive technique employed includes simple percentages and cumulative percentages; and the analytical tools adopted to test the hypotheses include Pearson’s correlation and analysis of variance.

4. Presentation, Analysis and Interpretation of Data
   This segment is dedicated to the presentation, analysis and interpretation of data obtained by the researcher in the conduct of this research. Primary data was obtained through the instrument of questionnaires administered to a total of sixty-nine respondents. Information presented was done in tables to aid understanding. Section 4.1 presents the bio-social information of the respondents; 4.2 presents the descriptive statistics of the questionnaires; and 4.3 shows the hypothetical test results.

4.1. Bio-social profile:

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<thead>
<tr>
<th>NO. OF QUESTIONNAIRES</th>
<th>NO. RETURNED</th>
<th>NO. NOT RETURNED/INVALID</th>
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<tbody>
<tr>
<td>75</td>
<td>69</td>
<td>6</td>
</tr>
</tbody>
</table>

1. Age distribution of respondents:

<table>
<thead>
<tr>
<th>AGE</th>
<th>FREQUENCY</th>
<th>PERCENTAGE</th>
<th>CUMM. %</th>
</tr>
</thead>
<tbody>
<tr>
<td>18 – 35</td>
<td>8</td>
<td>11.60</td>
<td>11.60</td>
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<tr>
<td>36 – 50</td>
<td>49</td>
<td>71.01</td>
<td>82.61</td>
</tr>
</tbody>
</table>
3. Academic Qualifications of respondents.

<table>
<thead>
<tr>
<th>ACADEMIC ATTAINMENTS</th>
<th>FREQUENCY</th>
<th>PERCENTAGE</th>
<th>CUMM. %</th>
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</thead>
<tbody>
<tr>
<td>No formal education</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>O’ Level</td>
<td>10</td>
<td>14.49</td>
<td>14.49</td>
</tr>
<tr>
<td>OND/NCE</td>
<td>21</td>
<td>30.43</td>
<td>44.92</td>
</tr>
<tr>
<td>HND/B.Sc</td>
<td>35</td>
<td>50.72</td>
<td>95.64</td>
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<tr>
<td>Masters/Ph.D</td>
<td>3</td>
<td>4.36</td>
<td>100.00</td>
</tr>
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<table>
<thead>
<tr>
<th>EMPLOYMENT STATUS</th>
<th>FREQUENCY</th>
<th>PERCENTAGE</th>
<th>CUMM. %</th>
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<tbody>
<tr>
<td>Permanent Staff</td>
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<td>0</td>
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<tr>
<td>Contract Staff</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Others</td>
<td>69</td>
<td>100</td>
<td>100.00</td>
</tr>
</tbody>
</table>

4. Cadre of Staff.

<table>
<thead>
<tr>
<th>STAFF CADRE</th>
<th>FREQUENCY</th>
<th>PERCENTAGE</th>
<th>CUMM. %</th>
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<tbody>
<tr>
<td>Upper Management</td>
<td>0</td>
<td>0</td>
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</tr>
<tr>
<td>Middle Management</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Lower Management</td>
<td>6</td>
<td>8.69</td>
<td>8.69</td>
</tr>
<tr>
<td>Supervisory cadre</td>
<td>31</td>
<td>44.92</td>
<td>53.61</td>
</tr>
<tr>
<td>Officer cadre</td>
<td>18</td>
<td>26.09</td>
<td>79.70</td>
</tr>
<tr>
<td>Junior staff</td>
<td>14</td>
<td>20.30</td>
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</tr>
<tr>
<td>Others</td>
<td>0</td>
<td>0</td>
<td>100.00</td>
</tr>
</tbody>
</table>

4.2. Frequency Distribution

Hypothesis:
There is a positive relationship between privatization of Enugu Electricity Distribution Company and improved technology.

**Effect of Competition on technology**

<table>
<thead>
<tr>
<th>Effects</th>
<th>SA</th>
<th>A</th>
<th>UD</th>
<th>SD</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improved technological tools</td>
<td>29</td>
<td>3</td>
<td>37</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Improved working tools</td>
<td>27</td>
<td>42</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acquisition of higher capacity transformers</td>
<td>35</td>
<td>34</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acquisition of functional vehicles</td>
<td>1</td>
<td>49</td>
<td>19</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rebuilding of fidda pillars</td>
<td>69</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Effective separation of loads on pillars</td>
<td></td>
<td>57</td>
<td>12</td>
<td></td>
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</tbody>
</table>

Hypothesis 2:

H1: increased electricity output in Enugu Disco has led to affordability of energy to customers.

**Effect of Privatization on affordability of supply**

<table>
<thead>
<tr>
<th>Effects</th>
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<th>A</th>
<th>UD</th>
<th>SD</th>
<th>D</th>
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<tbody>
<tr>
<td>Increased power supply</td>
<td>37</td>
<td>29</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prompt rectification of electricity faults</td>
<td>27</td>
<td>42</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prompt customers’ attention</td>
<td>35</td>
<td>34</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Reduction of frivolous billing</td>
<td>1</td>
<td>49</td>
<td>19</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Affordable user tariff</td>
<td>69</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Improved billing system</td>
<td></td>
<td>57</td>
<td>12</td>
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</tbody>
</table>


Hypothesis 3:

H1: There is a significant relationship between management efficiency and service reliability in PHCN/EEDC.

**Effect of privatization on service reliability**
### 4.3. Descriptive Statistics of Hypotheses

**Hypothesis 1:**

H1: There is a positive relationship between privatization of Enugu Electricity Distribution Company and improved technology.

**Effect of Privatization on Organisation’s technology**

<table>
<thead>
<tr>
<th>Effects</th>
<th>SA</th>
<th>A</th>
<th>UD</th>
<th>SD</th>
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<tbody>
<tr>
<td>Improved technological tools</td>
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<td>Effective separation of loads on pillars</td>
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**ANOVA**

<table>
<thead>
<tr>
<th></th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
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<th>Sig.</th>
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### Correlations

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<th>Improved working tools</th>
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<td>.507**</td>
<td>.624**</td>
<td>1</td>
<td>b</td>
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</table>

Source: SPSS analysis of field data.

Analysis of variance shows that there is a statistical significance of relationship among variables in hypothesis one. This is further buttressed in analysis presented in correlation analysis as shown below;
Hypothesis 2:

H1: increased electricity output in Enugu Disco has led to affordability of energy to customers of EEDC

Effect of Privatization on customers

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<thead>
<tr>
<th>Effects</th>
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Correlations

**. Correlation is significant at the 0.01 level (2-tailed).
Above hypothesis was tested at 99% confidence level and the result was significant in a 2-tailed test statistics. This means that there is significant relationship between privatization of Enugu Electricity distribution Company and increased efficiency. We therefore uphold the hypothesis.
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**. Correlation is significant at the 0.01 level (2-tailed).
The hypothesis that increased electricity output in Enugu Disco has led to affordability of energy to customers was tested to find the relationship among the identified variables, and the result showed that the correlation was significant at 0.01 level of error. This implies hike in electricity tariff, frivolous billing, lack of good metering system, estimated, direct billing system; among others are prominent incidences in the organisation.

Hypothesis 3:

H1: There is a significant relationship between management and service reliability in PHCN/EEDC.

Effect of privatization on improved customers’ services

<table>
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<tr>
<th>Effects</th>
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Correlations

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</table>
**. Correlation is significant at the 0.01 level (2-tailed).

We tested the hypothesis that, there is a significant relationship between management efficiency and service reliability in PHCN/EEDC, and the result was statistically significant at 0.01 level of error permitted. This means that regular power supply which is well distributed through improved technology amidst management efficiency characterised by lack of fraud and illegal consumer of energy are indicative of service reliability increased efficiency.

5. Summary of Findings, Recommendations and Conclusions

5.1. Summary of Findings

1. That there is no technological improvement in EEDC, Enugu.

2. That there is a minor improvement in service delivery in the Enugu Electricity Distribution Company in terms of power supply, prompt rectification of electricity fault and customer’s attention.

3. That the product of power in EEDC has become unaffordable to Nigerians in the South East region.

5.2. Recommendations

Based on the findings of the study, the following recommendations are made;

1. That EEDC should embark on technological efficiency through investment on basuc power technologies like new and higher capacity transformers, and other work tools which will make distribution of power much easier.

2. That EEDC should put in place, available relevant mechanisms for prompt customers’ attention and fault rectification which will improve their services to their customers.

3. Government should consider the plight of the people given the harsh economic situation faxed by the citizens, and reduce the user tariff of electricity per kilowatt/hour, so that power can be made available to the citizens considering the importance of electricity to economic development.

5.3. Conclusion

Privatization means different things to different people and countries. It is handled differently across economies. In the context of developing countries, privatization has substantial different
implications for the poor than it does to the middle and high income and developed countries. For instance, in many developed countries like America and Europe, when an enterprise is considered for privatization, its employees are prepared and trained for redundancy and other outshoots of the exercise; this is not so in Africa, particularly in Nigeria. In Nigeria and Africa in general, employees are thrown out to the labour market as a result of privatization, not educated or prepared physically and technically, to manage their present state of affairs. They are left at the mercy of the new owners of the privatized enterprise. In our case organization, Enugu Electricity Distribution company (EEDC), employees were severed from the government employment under Power Holding Company of Nigeria after which, more than two-thirds of them lost their jobs. Most of the people involved here, are young and energetic workers who have worked barely ten years and below; and some of those retained after privatization were those almost due for retirement and asked to continue working for reasons not known. The one-third retained to continue their career in the Company is faced with threats of job loss and police molestations on daily basis. This has eroded the joy of employment and the dignity of career. Where then is employees’ job security in Enugu Electricity Distribution Company (EEDC)?

In accessing privatization in Nigeria, studying the power sector, it is obvious that the programme has achieved a minimal improvement especially in the area of service delivery; except that it has impoverished a lot of families through job loss and increased tariff per unit of energy which is almost beyond the reach of the average Nigerian families.

Considering the fact above, the study concludes that the privatization of the Power Holding Company of Nigeria, Enugu into Enugu Electricity Distribution Company (EEDC) has not achieved economic development of the Nigerian citizens within the South East region that translates to improved economy of the people.

References


Akpotaire, V. (2004) ‘Privatisation and deregulation of the downstream sector of the oil and gas sector; Challenges for labour’ University of Benin, Faculty of Law lecture series, No 3, pp 1-18.


of The Institute of Policy Studies, Colombo, in, “Privatization in South Asia- Minimizing Negative Social Effects through Restructuring” Edited by Gopal Joshi, International Labor Organization (ILO), South Asia Multi-disciplinary Advisory Team (SAAT), Organization (ILO) New Delhi, India.


